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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,792	10/01/2003	Yuka Aoyagi	008312-0306181	4156

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PILLSBURY WINTHROP SHAW PITTMAN, LLP
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EXAMINER

BLOUIN, MARK S

ART UNIT	PAPER NUMBER
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2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/674,792	AOYAGI ET AL.	
	Examiner	Art Unit	
	Mark Blouin	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/26/04&4/29/05</u> | 6) <input type="checkbox"/> Other: ____ |

Detailed Action

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Shukh et al (USPub 2003/0117749).

3. Regarding Claims 1 and 11, Shukh et al shows (Figs. 5-7) a magnetic head for use in a disk drive that uses a disk-shaped recording medium for perpendicular magnetic recording, which includes a soft magnetic layer and a magnetic recording layer provided on the soft magnetic layer, said magnetic head comprising: a read-head element (232) which detects a magnetic flux from the magnetic recording layer (160), said magnetic flux corresponding data recorded by means of perpendicular magnetic recording; a write-head element (202) which is spaced from the read-head element and which includes a main magnetic pole (204) for generating a recording magnetic field extending perpendicular to the magnetic recording layer and a return yoke (206) for forming a magnetic path which guides, through the soft magnetic layer, a magnetic flux driving from the recording magnetic field generated by the main magnetic pole, said return yoke having a center part and an edge (217) which opposes a surface of the disk-shaped

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recording medium and which is so shaped that a ratio of the field intensity at that edge to the intensity of the magnetic field generated by the main magnetic pole is equal to or less than a predetermined value for suppressing a side writing caused by an intense magnetic field emanating from the edge of the return yoke. Since the claim fails to limit the "predetermined value" in any way, and/or since there is no quantitative parameters that limit a particular ratio, the reference is seen to meet this open-ended claim language. A ratio of the field intensity is inherent in the flux emanating from the main pole to the return pole.

4. Regarding Claims 2 and 12, Shukh et al shows (Figs. 5-7) the disk drive, wherein said edge (217) of the return yoke (206) has a surface which is opposite the surface of the disk-shaped recording medium, which has an area smaller than any other surface (surface 217 is smaller than surface 235) and which therefore helps to suppressing a side writing caused by an intense magnetic field emanating from the edge of the return yoke.

5. Regarding Claims 3 and 13, Shukh et al shows (Figs. 5-7) the disk drive, wherein said edge of the return yoke is so shaped that the edge is more spaced (see the curve at top of 206 in figure 5) than the center part from a track which is formed on the surface of the disk-shaped recording medium.

6. Regarding Claims 4 and 14, Shukh et al shows (Figs. 5-7) the disk drive, wherein the return yoke is so shaped that first distance between the edge and the main magnetic pole is more than second distance between the center part and the main magnetic pole (see the curve at top of 206 in figure 5).

7. Regarding Claims 5 and 15, Shukh et al shows (Figs. 5-7) the disk drive, wherein the magnetic head further includes a write shield (234) which opposes the return yoke

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across the main magnetic pole and which has an edge opposing a surface of the disk-shaped recording medium and so shaped that a surface which is opposite the surface of the disk-shaped recording medium has an area smaller than any other surface.

8. Regarding Claims 6 and 16, Shukh et al shows (Figs. 5-7) the disk drive, wherein the magnetic head further includes a write shield (234) which opposes the return yoke across the main magnetic pole and which has an edge opposing a surface of the disk-shaped recording medium and so shaped that a surface which is opposite the surface of the disk-shaped recording medium has an area smaller than any other surface.

9. Regarding Claims 7 and 17, Shukh et al shows (Figs. 5-7) the disk drive, wherein said edge of the write shield (234) is so shaped that the edge is more spaced than the center part from a track which is formed on the surface of the disk-shaped recording medium.

10. Regarding Claims 8 and 18, Shukh et al shows (Figs. 5-7) the disk drive, wherein the write shield (234) is so shaped that first distance between the edge and the main magnetic pole is more than second distance between the center part and the main magnetic pole.

11. Regarding Claims 9 and 19, Shukh et al shows (Figs. 5-7) the disk drive, wherein said edge of the write shield (234) is so shaped that the distance between any part and the main magnetic pole is proportional to the distance between the part and the surface of the disk-shaped recording medium.

12. Regarding Claims 10 and 20, Shukh et al shows (Figs. 5-7) the disk drive, wherein the magnetic head further includes a write shield (234) which opposes the return yoke (206) across the main magnetic pole (204); return yoke has an edge opposing a

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surface of the disk-shaped recording medium and so shaped that a surface substantially parallel to the surface of the disk-shaped recording medium has an area smaller than any other surface; and the write shield has an edge opposing a surface of the disk-shaped recording medium and so shaped that a surface substantially parallel to the surface of the disk-shaped recording medium has an area smaller than any other surface.

Conclusion

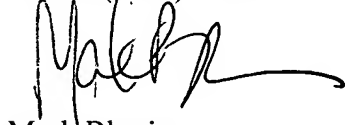
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Blouin whose telephone number is 571-272-7583.

The examiner can normally be reached on M-F from 6:00 to 3:30 pm.

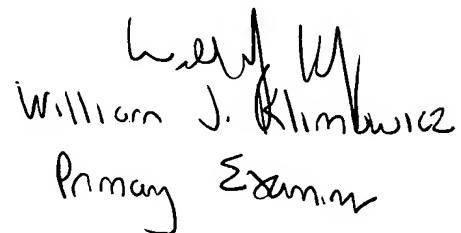
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Hoa Nguyen, can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).



Mark Blouin
Patent Examiner
Art Unit 2627
March 1, 2007



William J. Klimbicz
Primary Examiner